

### **REMARKS**

Applicants respectfully request reconsideration of the outstanding objections and rejections raised in the Office Action mailed July 23, 2010 (hereinafter, "Office Action"). Claims 1 and 27-47 were previously pending in this application. Claims 1, 27-39 and 43-47 were withdrawn from consideration. Claims 1, 27-39 and 43-47 are cancelled herein without prejudice or disclaimer. Claims 40-42 are amended herein. New claims 48-51 have been added. Support for these claims can be found, for example, throughout the specification and in original claims 18-21. As a result, claims 40-42, and 48-51 are under examination with claim 40 being an independent claim. No new matter is being introduced by way of amendment.

The Examiner is thanked for acknowledging Applicants' priority claim to U.S. provisional application no. 60/519, 286, filed November 12, 2003.

The objections and rejections raised in the Office Action are addressed below.

#### **Objections to the Specification**

The Examiner is thanked for pointing out that each trademark recitation should be capitalized and marked. The Examiner is also thanked for providing an updated address for the American Type Culture Collection (ATCC). The specification has been reviewed, and provided herein are amendments to correct each trademark recitation as well as the ATCC address. The Examiner is invited to point out any other improper trademark usage. Applicant will amend the specification should it be present in the specification.

The Examiner also indicated that the amino acid sequence on line 22 of page 31 of the instant specification requires a sequence identifier. Please note that the amino acid sequence "QRLFQVKGR" is designated SEQ ID NO: 1 in the Sequence Listing entered into prosecution on August 19, 2003. The specification has been amended herein to correctly identify this amino acid sequence. Applicants have also amended, herein, line 9 of page 25 to similarly reflect that amino acid sequence "QRLFQVKGR" is designated SEQ ID NO: 1.

Accordingly, withdrawal of these objections is respectfully requested.

### Objections to the Claims

The Examiner indicated that an article preceding “functionally equivalent peptide fragment thereof” is required in claim 40. Claim 40 has been amended, herein, to recite “a functionally equivalent peptide fragment thereof.”

Accordingly, withdrawal of this objections is respectfully requested.

### Rejections Under 35 U.S.C. §112

Claims 40-42 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite, for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

According to the Office Action, claim 40: (1) requires a definition of “LPS”; (2) requires clarification of the limitation, “conditions suitable for gelsolin binding”; and (3) requires clarification of the limitation, “thereby affecting platelet function.” Claim 40 has been amended herein to overcome the rejection. Support for this claim amendment may be found, for example, at lines 22 to 23 on page 7 of the application as originally filed.

Claims 41 and 42 are rejected for lack of proper antecedent basis in their limitations. The claims have been amended herein to provide proper antecedent basis.

Claim 42 is rejected because the recitation, “the patient, who is otherwise subject to or susceptible to LPS-induced generalized coagulation dysfunction,” renders the claim confusing. Claim 42 has been amended herein to clarify claim language

Applicants submit that the claims, as amended herein, comply with 35 U.S.C. §112. Accordingly, withdrawal of the rejection of claims 40-42 under 35 U.S.C. §112 is respectfully requested.

### Rejections Under 35 U.S.C. §102

Claims 40-42 are rejected under 35 U.S.C. §102(b) as being anticipated by Rosen et al. (WO 00/55350A1) as evidenced by Janmey et al. (J. Biol. Chem. 267:11818-11823, 1992) and Sheu et al. (Brit. J. Hematol. 103: 29-38, 1998). According to the Office Action, Rosen et al. “disclosed a method of treating medical conditions or infectious diseases, including Gram

positive bacterial infections due to *E. Coli*, such as sepsis or septic shock comprising intravenous administration (i.e., administration into the blood) to a patient (i.e., a subject susceptible to LPS-induced generalized coagulation dysfunction) of a therapeutically effective amount of a polypeptide comprising *SEQ ID NO: 1065* (AAB43620), a fragment or an epitope thereof that has biological activity, i.e., functionally equivalent peptide fragment.” Office Action at p.5. The Examiner refers to claim 17, the ‘Infectious Disease’ section at pages 403, 371, 372, 374, 375, 384, and 395, and to the ‘Therapeutic/Prophylactic Administration and Composition’ section at pages 336, 405 and 406, and 1051-1054. *Id.* The Office Action alleges that “[t]he prior art polypeptide is used to modulate blood coagulation disorders and blood platelet disorders such as thrombocytopenia and to decrease or dissolve clotting.” Office Action at p. 5. The Office Action also alleges, “that the polypeptide, KHVVPNEVVVQRLFQVKGRR, representing amino acids 29-48 of the prior art *SEQ ID NO: 1065* represents a biologically active gelsolin is inherent from the teachings of Rosen *et al.* in light of what is known in the art.” Office Action at p. 6. Here, Janmey *et al.* and Sheu *et al.* are relied upon by the Examiner to provide evidence of what was known in the art at the time the instant application was filed.

Applicants respectfully traverse this rejection. To anticipate a claim, a reference must teach each and every element of the claim. Moreover, when a claim is directed to a combination of elements, it is not sufficient for the elements or limitations to merely be present somewhere within the prior art document, rather the combination itself must be specifically disclosed and not merely be part of a multitude of possibilities assembleable by piecing together elements mentioned in the disclosure of the prior art reference. Richardson v. Suzuki Motor Company 868 F.2d 1226, 1236 (Fed.Cir. 1989) (“The identical invention must be shown in as complete detail as is contained in the patent claim.”) It is not sufficient for an anticipatory reference to merely recite individual elements of a claimed combination as part of long lists of possibilities without any suggestion or guidance leading one of ordinary skill in the art to make the specific combination claimed, as opposed to any other of a myriad of possible combinations. Minnesota Mining and Manufacturing Company v. Johnson & Johnson Orthopedics, Inc. 976 F.2d 1559, 1572 (Fed.Cir. 1992). Were the law otherwise, many novel and non-obvious inventions would be anticipated by many treatises, review articles, or even generalized references such as an

encyclopedia, which may disclose the individual elements somewhere within the reference, but which do not teach with any specificity the particular inventive combination claimed.

The Court of Appeals for the Federal Circuit ("CAFC") has repeatedly held that for a reference to anticipate under 35 U.S.C. §102, the reference must not only disclose all the elements of the claim within the four corners of the document, but must also disclose those elements "arranged as in the claim". A reference cannot be alleged to prove prior invention of a claimed subject matter and cannot anticipate under 35 U.S.C. §102 unless the reference discloses within the four corners of the document not only all of the limitations of the claimed invention, but also all of the limitations arranged or combined in the same manner as recited in the claim, not merely in a particular order. *Net MoneyIn v. Verisign*, 545 F.3d 1359 (Fed. Cir. 2008).

Applicants submit that Rosen et al. do not anticipate the claimed invention because they does not teach the specific claimed *combination* and do not show the instant invention in as complete detail as is contained in the claim. Rosen *et al.* disclose hundreds of cancer associated polypeptides and allege that the disclosed cancer associated polypeptides can be used to treat various diseases or conditions out of a long list of examples of diseases and conditions. Polypeptide of SEQ ID NO: 1065 is one of 842 human cancer associated polypeptides, and infectious diseases is one of the long list of medical conditions disclosed in Rosen et al.

Thus, the Rosen et al. reference is not sufficient as an anticipatory reference because it merely recites individual elements as part of long lists of possibilities without any suggestion or guidance leading one of ordinary skill in the art to make the specific combination claimed, as opposed to any other of a long list of alternative possibilities or myriad of possible combinations. Rosen et al. do not teach which polypeptides are effective for which diseases or conditions. Rosen et al. do not specifically teach using polypeptide of SEQ ID NO: 1065 to treat any particular condition, let alone LPS-induced generalized coagulation dysfunction. The reference must clearly and unequivocally disclose the claimed invention or direct a person of skill in the art to the invention without there being any need to pick, choose and combine various teachings of the cited reference. *In re Arkley*, 455 F.2d 586 (C.C.P.A. 1972).

In view of the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

Claims 40-42 are rejected under 35 U.S.C. §102(b) as being anticipated by Rothenbach et al. (J. Appl. Physiol. 96: 25-31, January 2004, first published May 2, 2003). Applicants respectfully traverse this rejection.

According to the Office Action, “the only required step of the claimed method is administering to the blood of a patient susceptible to or subject to LPS-induced generalized coagulation dysfunction a therapeutically effective amount of gelsolin or functionally equivalent peptide fragment thereof, under any conditions suitable for unspecified gelsolin binding, thereby affecting an unspecified function of platelet.” Office Action at p. 7. The Office Action also notes that “microvascular dysfunction occurring during inflammation in trauma or burn patients is not excluded from the scope of ‘generalized coagulation dysfunction’.” Office Action at p. 7.

Claim 40 has been amended herein to clarify claim language. As currently amended, claim 40 is directed to administering an amount effective for gelsolin to restore or maintain normal aggregation of platelets in the blood or extracellular fluid of the patient. Rothenbach et al. does not anticipate the claims as currently amended because Rothenbach et al. does not teach each and every limitation of the claimed invention. Rothenbach et al. does not expressly teach a correlation between plasma gelsolin levels and platelet aggregation.

Rothenbach et al. investigated the role of plasma gelsolin in the pathophysiology of inflammation-induced lung injury (Abstract). Rothenbach et al. utilized a standardized rat burn model to induce a defined pulmonary injury and found that plasma gelsolin depletion contributes to the pathophysiology of pulmonary vascular dysfunction. Even if the animals used in their study were subject to or susceptible to LPS-induced generalized coagulation dysfunction, there is no teaching in the Rothenbach et al. reference that administering exogenous plasma gelsolin restores blood platelet aggregation or a correlation between plasma gelsolin levels and restoration of platelet aggregation.

Accordingly, withdrawal of this rejection is respectfully requested.

**CONCLUSION**

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. B0801.70356US01.

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Respectfully submitted,

By 

Roque El-Hayek

Registration No.: 55,151

WOLF, GREENFIELD & SACKS, P.C.

600 Atlantic Avenue

Boston, Massachusetts 02210-2206

617.646.8000